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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,294	02/21/2001	Yukihiro Miyama	108669	4979

25944 7590 11/12/2002

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EXAMINER

SADULA, JENNIFER R

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 11/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

T.D

Office Action Summary

Application No.

09/763,294

Applicant(s)

MIYAMA ET AL.

Examiner

Jennifer R. Sadula

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/21/01, 6/28/01 & 8/6/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5. 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 6/28/01 has been considered by the examiner. However, the examiner wishes to note that these references merely submitted with English translations of an abstract have only been considered on the merits of that which was in English and no more. Any reference without an English language translation was not considered.

Specification

The abstract of the disclosure is objected to because the abstract does not appear in proper US format, but rather appears in Japanese format. Further, the abstract is more than 150 words or 15 lines, is not in single paragraph format, and the form and legal phraseology often used in patent claims, such as "means" and "said" should be avoided. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims appear to be rough translations in improper English format. Examples of which include: Claim 1 recites "comprising of polymer compound" in line 4. Similar examples of this particular problem occur in line 10. Articles such as the words "a" or "an" appear to be missing throughout. Claim 2 cannot be deciphered any more than the fact that the general formulas shown must be located somewhere in the polymer chain. However, it is unclear what particularly has no functional groups- the main chain, side chain, the polymer itself. Functional groups are somewhat necessary and inherent in polymer chemistry so this concept is unclear.

Claim 1 recites the limitation "the liquid crystal alignment agent" in line 1. There is insufficient antecedent basis for this limitation in the claim. Claim 1 further recites the limitation "thus substrate" in 2. Claim 1 further recites the limitation "the direct bond" in line 11.

Claim 5 recites, "where R^{10} or R^{11} in the general formula (18) above or R^{12} or R^{13} in the general formula (19a) and (19b) is selected from...". Claim 5 as it stands currently depends from claim 3 which depends from claim 1. Claim 4 makes reference to R^{10-13} and general formulas 18, 19a and 19b. Appropriate correction is required.

Claims 8-9 recite, "where R^{27} in the general formula (42a) and (42b) above is selected from...". Claim 8 as it stands currently depends from claim 6 which depends from claim 1.

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Claim 9 depends directly from claim 1. Claim 7 makes reference to R²⁷ and general formulas 42a and 42b. Appropriate correction is required. Similar problems exist in claim 13

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Oskinoshima et al., U.S. Patent No. 5,441,845 (“Oskinoshima I”).

Oskinoshima I teaches a photosensitive polymeric composition for use as a protective film for use as an alignment film wherein the alignment film is photoaligned due to photosensitivity. The polymer as taught substantially overlaps the orientation films of the present invention. In particular, see formulas 1 and 3 wherein the polyimide precursor is taught. See also a-1.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Buchecker et al., U.S. Patent No. 6,340,506 (“Buchecker”).

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Buchecker teaches photocrosslinkable photoactive polyamides, polyimides and polyimide precursors for use as orientation layers for liquid crystals wherein a provision of stable orientation occurs without rubbing (abstract and 4:48-65). The number of monomer blocks is generally from 2-2000 (15:18-21) and thus satisfies the molecular weight requirements.

Z groups are bound to be inclusive of groups such as CO, NR³, CONR³, etc, thereby satisfying the requirements of claim 4 (4:38-43). The ring structures include unsubstituted or substituted phenylene and thiophenylene (3:38-63). With regard to claim 7, the preferred monomer units are the imide groups of general formula III-VIII wherein T¹ is a tetravalent radical (8:37-10:30). Examiner notes formula IV and the like with regard to the present invention. The formula can indeed be interpreted to be a polyurethane or polyurea.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Yazaki et al., U.S. Patent No. 6,025,895 ("Yazaki") in view of either Oskinoshima I, as applied above or Oskinoshima et al., U.S. Patent No. 5,292,619 ("Oskinoshima II").

Yazaki teaches a liquid crystal display consisting of polyimine alignment films where rubbing treatment is not administered. The full device is disclosed, however the composition of the alignment film is not.

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Both Oskinoshima I and Oskinoshima II teach polyimide alignment film materials for use in situations where rubbing is not preferred. Both references define polyimides as inclusive of polyamic acids and such derivations (note formulas I and II in Oskinoshima II and formulas I and III in Oskinoshima I).

It would have been obvious to one of ordinary skill in the art at the time of invention to make or use the device of Yazaki with the polymeric film materials of either Oskinoshima I or II as Yazaki teaches that the film material be of polyimine photosensitive materials and both secondary references teach examples of such.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Endou teaches a method for liquid crystal alignment wherein the thin film is a tetracarboxylic acid polyimide resin which is induced via polarized light.

Gibbons teaches amine compositions useful in the preparation of polyimides and polyamic acids wherein the amine compositions are useful for inducing alignment via polarized light (2:3-17). When interpreting the polyimide of claim 1 of Gibbons, A is a trivalent organic moiety.

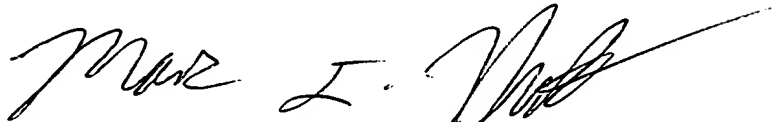
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer R. Sadula whose telephone number is 703.305.4835.

The examiner can normally be reached on Monday through Friday, 10am-6pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 703.308.2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9310 for regular communications and 703.872.9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0661.

A handwritten signature in black ink, appearing to read 'Mark F. Huff', with a long, sweeping horizontal line extending to the right.

MARK F. HUFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

JRS
November 6, 2002